

CLAIMS

1. A rotary encoder comprising:

a disc that rotates around a rotating axis and comprises
5 slits that are formed circumferentially at given intervals;

a pair of photo-interrupters that respectively have a
light-emitting device and a photo-detecting device opposite each
other, and that generates two signals with a phase difference,
each photo-interrupter being pivotable around a pivot coaxial to
10 the rotating axis, and each photo-interrupter being arranged along
the circumferential direction of said disc so as to position the
slits between the light-emitting device and the photo-detector;

an adjusting member configured to contact said pair of
photo-interrupters, and configured to be movable along a shifting
15 direction corresponding to a radial direction of said disc so as
to press said pair of photo-interrupters, said adjusting member
configured to adjusting a relative position-relationship between
the pair of photo-interrupters associated with the phase
difference; and

20 a shifting controller configured to shift said adjusting
member along the shifting direction to set the phase difference
to a predetermined phase difference.

2. The rotary encoder of claim 1, wherein said adjusting member
is movable between said pair of photo-interrupters, said pair of
25 photo-interrupters being separated from each other in accordance

with the pressing of said adjusting member.

3. The rotary encoder of claim 2, wherein said pair of photo-interrupters is arranged so as to be symmetrical with respect to the shifting direction, such that each photo-interrupter pivots
5 by an equal shifting-amount.

4. The rotary encoder of claim 1, further comprising a supporting member that supports said pair of photo-interrupters and said adjusting member, said adjusting member being slidable on said supporting member along the shifting direction, and said
10 pair of photo-interrupters being pivotably mounted on said supporting member.

5. The rotary encoder of claim 4, wherein said shifting controller comprises a screw, said threaded screw being threaded into a first threaded hole formed in said supporting member and
15 a second threaded hole formed in said adjusting member, said adjusting member being movable by screwing said shifting controller.

6. The rotary encoder of claim 5, wherein a screw-direction of said second threaded hole is opposite of that of said first
20 threaded hole, said screw comprising a first screw section with a screw direction corresponding to said first threaded hole and a second screw section with a screw direction corresponding to said second threaded hole.

7. The rotary encoder of claim 1, wherein each of said pair
25 of photo-interrupters is fastened around the pivot such that each

photo-interrupter moves only when said adjusting member presses thereagainst.

8. The rotary encoder of claim 1, wherein said adjusting member comprises a curved surface portion such that said pair of
5 photo-interrupters is pressed simultaneously.

9. A position adjuster for a pair of photo-interrupters incorporated in a rotary encoder having a disc that rotates around a rotating axis and includes slits, said position adjuster comprising:

10 an adjusting member configured to contact said pair of photo-interrupters, and configured to be movable along a shifting direction corresponding to a radial direction of said disc so as to press said pair of photo-interrupters, said adjusting member configured to adjust a relative position-relationship between the
15 pair of photo-interrupters associated with the phase difference; and

a shifting controller configured to shift said adjusting member along the shifting direction to set the phase difference to a predetermined phase difference.

20 10. The position adjuster of claim 9, wherein said adjusting member is movable between said pair of photo-interrupters, said pair of photo-interrupters being separated from each other in accordance with the pressing of said adjusting member.

11. The position adjuster of claim 10, wherein said pair of
25 photo-interrupters is arranged so as to be symmetrical with respect

to the shifting direction, such that each photo-interrupter pivots by an equal shifting-amount.

12. The position adjuster of claim 9, further comprising a supporting member that supports said pair of photo-interrupters and said adjusting member, said adjusting member being slidable on said supporting member along the shifting direction, and said pair of photo-interrupters being pivotably mounted on said supporting member.

13. The position adjuster of claim 12, wherein said shifting controller comprises a screw, said threaded screw being threaded into a first threaded hole formed in said supporting member and a second threaded hole formed in said adjusting member, said adjusting member being movable by screwing said shifting controller.

14. The position adjuster of claim 13, wherein a screw-direction of said second threaded hole is opposite of that of said first threaded hole, said screw comprising a first screw section with a screw direction corresponding to said first threaded hole and a second screw section with a screw direction corresponding to said second threaded hole.

15. The position adjuster of claim 9, wherein each of said pair of photo-interrupters is fastened around the pivot such that each photo-interrupter moves only when said adjusting member presses thereagainst.

16. The position adjuster of claim 9, wherein said adjusting

member comprises a curved surface portion such that said pair of photo-interrupters is pressed simultaneously.